1 – 37. (canceled)

38. (currently amended) A method of manufacturing a hardfaced plate by applying a cladding of a hard-wearing material being in the form of a continuous weld bead or a plurality of side-by-side beads to a surface of a cylindrical substrate by arc welding, the method comprising:

forming a substrate into a cylindrical shape;

rotating the cylindrical substrate about a horizontal axis;

moving a welding gun relative to said cylindrical substrate in a direction generally parallel to said horizontal axis;

feeding a continuous arc welding wire formed of the hard-wearing material from the welding gun to the surface of the substrate, wherein the welding gun feeds the welding wire to the surface of the substrate in a direction generally transverse to said horizontal axis, the welding gun being mounted such that a welding tip thereof is located below an uppermost level of the surface of the rotating cylindrical substrate;

melting the welding wire to provide molten hard-wearing material on the surface of the rotating cylindrical substrate at a location below the uppermost level of the surface of the rotating cylindrical substrate such that the molten material is moved upwards by the rotation of the cylindrical substrate; and

solidifying the molten hard-wearing material to form the cladding on the surface of the cylindrical substrate;

wherein monitoring of a profile(s) of the weld bead(s) is carried out as a part of a procedure to maintain a desired profile for the cladding where the thickness of the substrate before cladding is represented by the distance x and the thickness of the cladding is represented by a distance y, which excludes the depth of penetration of the weld bead(s) into the upper surface of the substrate, the manufactured hardfaced plate having a thickness, $x+y$ of less than 5mm.

39. (previously presented) A method according to claim 38, wherein the welding gun is mounted at an acute angle to the surface of the substrate.

40. (canceled)

41. (canceled)

42. (canceled)

43. (currently amended) A method according to claim [[42]] 39 , wherein information from the monitoring is used to adjust at least one of a welding current, an arc voltage, speed of movement of the welding gun, speed of movement of the substrate, a welding gun angle, and a stickout distance.

44. (previously presented) A method according to claim 38, further comprising moving the welding gun relative to said substrate in the direction generally transverse to said horizontal axis.

45. (previously presented) A method according to claim 44, further comprising oscillating the welding wire transversely or parallel to the horizontal axis and/or the direction of movement of the welding gun.

46. (previously presented) A method according to claim 38, further comprising adjustably pivoting the welding gun to maintain a desired orientation of the welding gun relative to the rotating cylindrical substrate.

47. (currently amended) Apparatus for manufacturing a hardfaced plate by applying a cladding of a hard-wearing material being in the form of a continuous weld bead or a plurality of side-by-side beads to a surface of a cylindrical substrate by arc welding, the

apparatus comprising:

means for rotating the cylindrical substrate about a generally horizontal axis;

means for mounting a welding gun such that a welding tip thereof is located below an uppermost level of the surface of the rotating cylindrical substrate;

means for moving the welding gun relative to said cylindrical substrate in a direction generally parallel to said horizontal axis; and

means for feeding a continuous arc welding wire from the welding gun to the surface of the substrate, wherein the means for feeding is arranged to feed the welding wire to the surface of the substrate in a direction generally transverse to said horizontal axis, wherein the cladding is formed on the cylindrical substrate by melting the welding wire onto the rotating cylindrical substrate to provide molten hard-wearing material on the surface of the rotating cylindrical substrate at a location below the uppermost level of the surface of the rotating cylindrical substrate such that the molten material is moved upwards by the rotation of the cylindrical substrate;

wherein means for monitoring of a profile(s) of the weld bead(s) are provided to maintain a desired profile for the cladding where the thickness of the substrate before cladding is represented by the distance x and the thickness of the cladding is represented by a distance y, which excludes the depth of penetration of the weld bead(s) into the upper surface of the substrate, the manufactured hardfaced plate having a thickness, $x+y$ of less than 5mm.

48. (previously presented) Apparatus according to claim 47, wherein the welding gun is mounted at an acute angle to the surface of the substrate.

49. (previously presented) Apparatus according to claim 47, wherein the means for mounting comprises means for adjustably pivoting the welding gun to maintain a desired orientation of the welding gun relative to the rotating cylindrical substrate.

50. (canceled)

51. (canceled)

52. (canceled)

53. (canceled)

54. (previously presented) Apparatus according to claim 52 comprising additional means arranged to carry out said monitoring as part of a procedure to maintain a desired profile for the cladding.

55. (previously presented) Apparatus according to claim 53 comprising additional means arranged to carry out said monitoring as part of a procedure to maintain a desired profile for the cladding.

56. (previously presented) Apparatus according to claim 52 including further means for adjusting at least one of a welding current, an arc voltage, speed of movement of the welding gun, speed of movement of the substrate, a welding gun angle, and a stickout distance.

57. (previously presented) Apparatus according to claim 53 including further means for adjusting at least one of a welding current, an arc voltage, speed of movement of the welding gun, speed of movement of the substrate, a welding gun angle, and a stickout distance.

58. (previously presented) Apparatus according to claim 52, wherein the apparatus further comprises means for moving the welding gun relative to said substrate in the direction generally transverse to the horizontal axis.

59. (previously presented) Apparatus according to claim 53, wherein the apparatus further comprises means for moving the welding gun relative to said substrate in the direction generally transverse to the horizontal axis.

60. (previously presented) Apparatus according to claim 52 including means arranged to oscillate the welding wire transversely or parallel to the horizontal axis and/or the direction of movement of the welding gun.

61. (previously presented) Apparatus according to claim 53 including means arranged to oscillate the welding wire transversely or parallel to the horizontal axis and/or the direction of movement of the welding gun.